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ORIGINAL ARTICLES.

INTRAOCULAR INJECTIONS OF STERILIZED IODO- FORM INTO THE ANTERIOR CHAMBER IN TUBERCULAR IRITIS.

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TUBERCULAR Iritis is fortunately a comparatively rare disease. Until recently it has entirely baffled the oculist's skill. All visible tubercular portions of the iris have been excised only to be followed by the process recurring in another part of the iris. To *Haab*¹ we are indebted for the results of experiment and treatment of such cases with intraocular injections of sterilized iodoform. That remarkable effects are produced by this treatment the history of the following case shows:

October 11, 1901.—Wm. J. H., 21 years of age, of Oakmont, Pa., is led into my office. He had been employed as a marker or letterer of structural iron in a mill. Early in April, 1901, his eyes became red and his sight *failed rapidly*. In 10 days they became so weak, that he could not even find his way to work. They did not pain him. His family physician pronounced the affection to be "pink eye." He prescribed eye-drops and in the beginning warm, later cold applications. After thus being treated two weeks and his vision becoming

weaker, he was brought to this city to an oculist. The latter prescribed eye-drops, mercurial inunctions, iodide of potassium, and had leeches applied to the temples. This treatment was continued without any apparent improvement, from the latter part of April until about one week before the patient was brought to me.

General Appearance:—Patient is tall and slender and appears anæmic. *History:*—He claims his health has always been good. Has been married about one year. They have one healthy child. No syphilitic or tubercular history obtainable nor manifestation of the same discoverable.

EXAMINATION OF EYES.

Right Eye.—Moderate ciliary injection. Tension normal. Cornea, particularly the naso-central portion, vascular and opaque. A few grayish deposits on Descemets' membrane. Pupil small, immovable and covered with exudate. Iris bluish and in its ciliary portion a number of small prominent grayish nodules. Vision limited to ability to note the direction of shadow before eye. Projection normal.

Left Eye.—Picture much like right eye. Tension normal. Less ciliary injection. Cornea less vascular and fairly clear around a large temporal central anterior synechia. No deposits on Descemets' membrane. Circular posterior synechia. Entire iris seems adherent to lens capsule. Many small grayish nodules in iris. Vision about the same as with the other eye. Ordered instillations of a 1 per cent. solution of atropin sulphate into each eye daily.

October 18, 1901.—As the right pupil seemed a little larger, so under cocaine anæsthesia, I attempted an iridectomy from the temporal side, but the iris was so firmly attached to the anterior lens capsule that it was unsuccessful. Believing iodoform would have a favorable effect on the tubercular process, I then introduced considerable sterilized iodoform² with a spatula³ into the anterior chamber.

October 23, 1901. Right Eye.—Severe reaction. Intense iritis and ciliary redness. Entire cornea hazy and vascular.

October 24, 1901. Left Eye.—I attempted an iridectomy from the nasal side, but only succeeded in excising

from their adhesions two small separate pieces of iris, the one at the pupillary, the other at the ciliary margin—the intervening iris was firmly adherent to the lens capsule. I then put as much iodoform into the anterior chamber as possible.

November 1, 1901. Right Eye.—Cornea is clearing up very slowly.

Left Eye.—Tension normal or slightly reduced. Considerable iritis. Counts fingers held just in front of eye. Atropin is being used freely in both eyes.

November 14, 1901. Right Eye.—Inflammation subsiding. Iodoform appreciably lessened in amount. Nodules in the iris appear smaller.

Left Eye.—Iodoform diminishing. Cornea clearer. Can discern which finger of hand is held before eye. Projection is uncertain.

Not anticipating any further improvement, hoping only that the little vision gained might be permanent, I advised his attending the Institution for the Blind to learn a trade, also the continued use of an atropin ointment, (1 per cent.) every evening in each eye, and a tablespoonful of cod-liver oil after each meal.

February 20, 1903.—Patient returns to have glasses adjusted. He is healthy and much heavier. He says his vision improved slowly until June, 1902, when he left the Institution for the Blind. Since then his vision has remained practically the same.

He goes about without any assistance and follows his trade, broom-making, advantageously. *With either eye he counts fingers at seven feet; with both eyes fingers at fully eight feet, He reads the head lines in the daily papers.*

Examination.—Both eyes are quiet. Each has a large central corneal opacity with the iris adherent to the same—in the right eye more than in the left. Tension normal. No deposits on Descemet's membrane, nor nodules visible in the iris. With the magnifying glass (loupe) many narrowed blood-vessels are seen in the cornea and iris. Directly upward both pupils seem slightly movable. No exudate can be seen in the right pupil. Before the right eye he sees "movable clouds" (vitreous opacities).

Believing the process to be tubercular and not syphilitic, I attempted the iridectomies. The partial iridectomy having remained as made, and the plastic exudations in the pupil, etc., having disappeared to a considerable extent, tends to confirm the diagnosis of tubercular iritis.

In the near future I hope again to attempt an optical iridectomy in each eye.

It would seem the favorable result obtained in this case and the improvement *Haab* and *Ammann* noted from their observations, warrant further application of this method in the treatment of supposedly⁴ tubercular iritis.

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¹*Ammann* (Assistant to Prof. Haab). Zur Irístuberculose. Klin. Monatsbl. für Augenheilkunde. May, 1897.

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Knur. Ueber die intraoculäre Iodoform—Desinfection nach Prof. Dr. Haab. Inaugural Dissertation. Zürich, 1901.

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²Method of sterilizing the iodoform:—Place the iodoform in a 3 per cent. solution of carbolic acid for 48 hours. Pour the acid off. Plug the receptacle with sterilized cotton; put it in an oven with a constant temperature of 40° C. to dry.

³The iodoform used at present by Prof. Haab is prepared by his private assistant, Dr. Sidler-Huguenin, with sterilized gelatine, in the form of small, round bacilli or flat discs. Vide *Knur* loc. cit., page 12.

⁴I was not in a position to confirm my diagnosis by a complete bacteriological examination. I have preserved the excised iris from the left eye in 95 per cent. alcohol.

PAMPHLETS RECEIVED.

“Portland Medical Club, 1876–1902.”

“The Misuse of Glasses,” by F. C. Hotz, M.D.

“Paraffin Injections in a case of so-called Saddle-Nose,” by F. Alter, M.D.

“Blindness from Congenital Malformation of the Skull,” by Ch. A. Oliver, M.D.

“A Modification of Gersuny’s Method of Paraffin Injections, Etc.,” by F. Alter, M.D.

EPISCLERITIS AND SCLERITIS.*

By ADOLF ALT, M.D.

WHEN deciding to bring before this Association the subject of episcleritis and scleritis, I was aware of the fact that it is not a very enticing subject. These diseases belong to the class of which we know as yet but very little outside of their clinical picture, and in which, in consequence, our therapeutic efforts are chiefly empirical, and, though sometimes crowned by apparent success, are in the majority of the cases utterly unreliable, not to say useless; perhaps, sometimes even harmful.

I was also aware of the fact that I could not add anything very new or striking to the knowledge of these diseases, but I hoped that by treating the subject more or less in the light of the results of my own experiences with it, I might induce others to detail theirs, and that, perhaps, after all, this sterile field might be rendered fruit-bearing.

When looking through the many and more and more swiftly multiplying text-books it seems that one copies from the other with little or no addition from personal experience, especially as concerns the subject of this paper, and our knowledge concerning it has of late not been enhanced to any appreciable extent.

The clinical picture of episcleritis and scleritis is so well known to all of you that I need not take up too much time in detailing it.

We may clinically differentiate between superficial episcleritis and scleritis, and a more deeply seated scleritis.

In the superficial form one or several foci of inflammation are visible under the bulbar conjunctiva. These form characteristic roundish red, or reddish-blue elevations, covered by congested conjunctiva. This conjunctival and episcleral congestion may be confined to the seat of the swelling and a few vessels supplying its area, or it may be more general in character. The elevated nodule is in most cases more or less solid and feels rather hard to the touch, but I have also seen a number of cases in which during the progress of the disease elevated spots were formed which looked exactly like

*Read at the meeting of the Academy of Ophthalmology and Otolaryngology held at Indianapolis April 9th to 11th, 1903.

large phlyctaeans, semitransparent and as if filled with a muddy yellowish liquid. The nodules cannot be moved on the sclerotic. Pressure on them, which is usually quite and sometimes extremely painful, may empty the superficial conjunctival blood-vessels, but not those lying in the depth, nor reduce the swelling.

Such a nodule may disappear and consecutively more nodules may spring up, and it may happen that this nodule-formation travels gradually all around the periphery of the cornea.

The seat of the nodules is either quite close to or but little removed from the periphery of the cornea, or farther back near the aequator of the eyeball. In a general way, though not without exception, their seat seems to be near the places where larger blood-vessels pierce the sclerotic.

When the nodules are formed very close to the periphery of the cornea this membrane is frequently seen to suffer also. I have seen typical marginal ulcers of the cornea thus formed corresponding to the seat of the episcleritic nodule. In other cases, and this happens more frequently, an infiltration into the deeper corneal tissue takes place, which gradually leads to the formation of new tissue, and consequent sclerosis of a localized peripheral part of the cornea.

In some cases the eruption causes little or no discomfort, even though it gradually invade quite a large area of tissue. In most cases, however, there is spontaneous pain and great discomfort and the eyes cannot be used for any work.

This is the more unfortunate since the disease, in the majority of cases, attacks both eyes, although I have seen it in quite a number of cases to remain confined to one eye only.

During its springing up, growth and disappearance such a nodule never shows any signs of superficial or deeper necrosis and no ulcer results from it. When the affection heals, with or without treatment, the swelling becomes gradually reduced in size, till it finally disappears, and usually together with it the congestion which had accompanied it. In other cases the congestion remains behind and new abortive attacks can still be recognized by a sudden localized increase of congestion, although no swelling appears, till finally, like distant lightning after the storm, even this fades out.

The seat of a former episcleritic nodule may then show no trace of having been disturbed. In most cases, however, and especially in the more prolonged ones and those in which the nodule was situated near the aequator, a grayish-blue or grayish-violet spot marks the site of the former infiltration for life.

The course of the disease is pre-eminently slow, and with the continually renewed eruptions it may cover many months and years. I have at this time a patient under my observation, in whom the disease made its first appearance nineteen months ago, and at this date is far from being cured.

The disease is usually seen in adults, yet sometimes it also appears in young children. It seems to attack individuals of the female sex oftener than those of the male sex. In some cases I have noted a decided influence of the female sexual sphere on the course of the disease, as it showed exacerbations with every menstrual period. Negroes are often subject to it.

The clinical picture of the deeper-seated scleritis is a different and more varied one, according to the area involved and its complications, and its sequels are of a much more deleterious character. It has always seemed to me that this is an essentially different affection, although its symptoms in certain cases and at a certain period may in a measure be similar to those of superficial episcleritis. When the deeper parts of the sclerotic in the anterior half of the eyeball are inflamed we may, also, see an isolated elevation of the sclerotic of bluish-red tint, covered by congested conjunctiva. This elevation usually covers a larger area than in episcleritis. It is in some cases seen to form a bluish elevated ring around the periphery of the cornea, close to it or more over the region of the ciliary body. When the disease, as it undoubtedly does, attacks the sclerotic farther back and near the posterior pole of the eyeball, we can, of course, not see it.

Such deeper seated scleral infiltrations may also gradually disappear like the superficial ones, without leaving a mark behind. Yet the rule is that when such a nodule has disappeared we find in its stead a bluish-gray thin area in the sclerotic, to which the uveal pigment gives a peculiar color. This thinned out area is too weak to withstand the normal,

and much less an increased, intraocular pressure and the result is a more or less localized staphyloma. If the disease had attacked the circumcorneal tissue this whole area becomes stretched and the result is the annular staphyloma which used to be termed "Intercalar Staphyloma." In the same manner ciliary and aequatorial staphylomata, as well as more posteriorly situated ones, and a total scleral staphyloma may result.

This form of scleritis is in my experience always combined with a more localized or general affection of the uveal tract. While the question remains which of the two membranes is the first to be attacked, my opinion is that the uveal tract is, as a rule, first diseased and the sclerotic secondarily.

Deep-seated scleritis is more frequently observed in very young children, although it may also be met with in adults.

The course of the disease with its sequelæ is much longer than that of the superficial episcleritis.

Fuchs (and before him some English authors) has described a third form of episcleritis, to which he gave the name of episcleritis periodica fugax. The symptoms of inflammation in this form are said to be slight and of short duration, although recurring again and again, so that this affection also may extend over years. It is said to be a very rare form, and I have never seen it.

If we now inquire into the etiology of these affections we find an astonishing unanimity among the authors of textbooks. A rheumatic diathesis always heads the list of etiological factors, and some authors go so far as to state that they have hardly ever seen a case of episcleritis that could not be explained by a rheumatic diathesis. I must differ very materially from these authors. In my experience cases of episcleritis in which a history of former rheumatism in whatever form could be elucidated, or in which a rheumatic diathesis was present at the time, have been but very few indeed. But I confess I am in decided need of information as to what the authors exactly mean by rheumatic diathesis.

Next to rheumatism a gouty diathesis is most frequently accused. A gouty or uric acid diathesis has of late attained such a prominence in the explanation of all sorts of affections that it is not to be wondered at that it may also cause epi-

scleritis. I have signally failed in my cases to convince myself of any gouty diathesis, and while I know a great many individuals who are undoubtedly afflicted with the so-called uric acid diathesis, not one of them has ever, so far as I am aware, suffered from episcleritis.

That acquired syphilis may once in a while cause a typical episcleritis has been proven by Alexander not only from his own observation but also from previous literature (Coccius, Jacobson, Arlt, Mooren, Galezowski and Higgins).

Tuberculosis and scrophulosis are also mentioned, as is hereditary syphilis. Perhaps these affections play as im-



FIG. 1.

portant a rôle, or even a more important rôle in the etiology of at least the deep scleritis, if not the superficial one, than either rheumatism or gout. This may be, and I think it is, especially so when the disease is found in young children.

Still, in summing up my clinical experience with these affections of the episcleral and scleral tissue, I must confess that in most of the cases I have been utterly unable to convince myself of a general diathesis which might underlie this local affection, even though certain so-called specific remedies seemed to, and for the time being did, exert a beneficial influence on its course, and the diagnosis of the diathesis might have appeared as proven *ex juvantibus*.

In this general uncertainty we might hope to gain some special insight into the mysteries of the affections we are here considering by the study of their pathology: Yet, eyes with superficial episcleritis have, from the nature of the disease, but very rarely and only, so to speak, by accident reached the pathological laboratory, those with a deeper-seated scleritis, while much more frequent, are usually seen when the most active stage has long been passed and only its sequelæ can be studied.

The following is a resumé of what has been seen: Superficial episcleritis and scleritis (because the two are always found together) has been studied especially by Uhthoff and

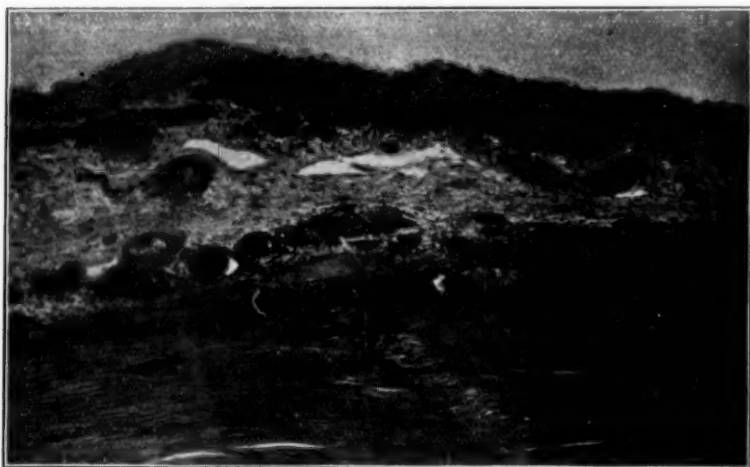


FIG. 2.

Schirmer, and I have examined one case. In my case the affection was strictly a superficial episcleritis and the swelling was situated near the cornea. The conjunctival epithelium is thickened. Underneath it lie the greatly congested conjunctival blood-vessels surrounded by varying masses of round cells. The conjunctival and episcleral tissue is somewhat œdematous and its elements are pressed apart. In it are seen a number of evidently enlarged lymph-vessels, and their number appears greater than in the norm. The episcleral blood-vessels are enormously engorged, so that they form almost a continuous layer, the small interstices of which

are filled with round cells. The round cell infiltration reaches also into the superficial layers of the sclerotic. (Figures 1, 2 and 3.)

What I find in this case agrees perfectly with what Uhthoff and Schirmer have seen, only in their cases the round cell infiltration seems to have reached a little deeper into the scleral tissue. Uhthoff, moreover, in his specimen found evidences of small hæmorrhages which are very likely to happen in a tissue so gorged with blood. The normal ele-



FIG. 3.

ments of the tissues did not seem to be materially altered in any of these cases.

Cases of deeper scleritis at a florid stage have been described by Schirmer, Uhthoff, Holthouse and Collins, Schlodtmann, Friedland, Kostenitsch and Ginsberg. I have seen a number of them also. While in these cases the episcleral tissue is always involved in the process of inflammation, it is especially the scleral tissue which suffers. There is usually a very considerable infiltration of round cells in the superficial layers of the sclerotic fibres which quite frequently assumes the shape of tubercle-like round and oblong nodular

formations. The pressure leads to hyaline degeneration or necrosis of the scleral fibres. Friedland found, also, some giant cells. The pressure of the increasing number of round cells may also lead to necrosis in the round cell accumulations themselves, so that they lose their cellular characteristics and form a more uniform semi-hyaline mass. (Figure 4). The underlying part of the uveal tract is usually also inflamed. Later on, when the inflammatory process has subsided, the sclerotic is thin, there are few cells visible in it, the blood-vessels are obliterated and the corresponding part of the uveal tract is also atrophic and attached to the sclerotic.



FIG. 4.

When the scleritis is still more virulent, we find also the inner layers of the sclerotic and the corresponding part of the uveal tract infiltrated with round cells, so that the boundary line between the two membranes cannot be distinguished. Between the infiltrated superficial and deep layers of the sclerotic there is usually a middle part which seems but little affected. In other cases the infiltration concerns all the layers of the sclerotic. All episcleral and conjunctival blood-vessels are gorged with blood and the lymph-vessels appear to be much more numerous and larger than in the norm. Necrosis of the scleral fibres and of the infiltrating cells is usually seen in these cases.

The process leads finally to atrophy and stretching of the affected parts (staphyloma), yet it may also, and it does so usually in the parts near the posterior pole of the eyeball, lead to the new formation of connective tissue and thus cause a so-called hypertrophy of the sclerotic, as we are accustomed to find it in phthisical eyeballs.

This in the main is the description which is given by the different authors and also of my own observations. I might add that the deep scleritis, like the superficial, is found as a rule where the larger blood-vessels pierce the sclerotic, and I am of the opinion that this form of scleritis is an affection secondary to an affection of some part of the uveal tract. The most undoubted example of this we see in cases of florid panophthalmitis in which even the orbital tissues surrounding the eyeball may be drawn into the process of inflammation.

Herein also lies the reason that I believe that the superficial episcleritis is a disease *per se* and distinct from the deeper scleritis. I further believe that Schlodtmann is right in assuming that episcleritis is probably a special mycotic disease, the parasite of which, as yet unknown, may some day be found.

Although giant cells have been found in some cases of deeper-seated scleritis, no bacilli of tuberculosis have been demonstrated. Neither could syphilis be assumed to explain the histological findings.

Pathological research, as is seen from the foregoing, has thus far not succeeded in throwing much light on the nature and etiology of the diseases under consideration. Yet, clinically they form a distinct group which is not to be confounded with other affections. It is, therefore, clear that, perhaps, a great many more such cases will have to be studied pathologically, from a histological as well as a bacteriological standpoint, in order to solve their mystery.

Here, maybe, you will permit me to swerve a little from the subject of this paper and put in a plea for the pathologist who, if ever so willing to do the work, cannot get the necessary material for study, unless it is supplied to him by those of his colleagues who do not themselves make use of it for special study. There are still too many interesting and important eye specimens simply cut to pieces, or allowed to rot

and dry up in jars, when in the proper hands they might help to solve one or the other question of importance to science—that is to humanity. No worker in this field can get enough material from his own practice. What a wealth of material might he have to work on if no specimen was thought too trivial to be submitted to his study!

After this *oratio pro domo* let us return to our subject, as we have still to consider the treatment of episcleritis and scleritis.

In correspondence with our lack of knowledge as regards the cause and true character of these affections, we find a perfect wealth of recommendations in the text-books. As most, in fact all, of them consider rheumatism and gout the prime causes of episcleritis, they are unanimous in giving first place in its treatment to anti-rheumatic remedies, especially the salicylates, and of late with preference aspirine. It has also been my experience that these remedies seem to have a beneficial influence in some cases, at least as far as relieving the pain and discomfort are concerned. Yet they will do the same in non-rheumatic affections, as, for instance, in syphilitic iritis. I have tried them faithfully and sometimes, perhaps, only too persistently, in episcleritis, and I have convinced myself time and again that, as far as curing the disease is concerned, they are unreliable. I must say the same of the iodides and mercury internally, except in syphilitics. Subconjunctival injections of solutions of different mercurial salts and of pure salt solution have sometimes a beneficial action, but in other cases they seem to add decidedly to the irritation present and to aggravate the disease. Pilocarpine locally, internally, or subcutaneously does sometimes well, so do heat and cold, but their efficacy seems to give out after a little while, like that of the other remedies previously mentioned, whether we combine with them mydriasis and rest in a dark room, or not. Massage with yellow oxide of mercury, aristol or salicylic acid, in the form of ointments, is decidedly beneficial up to a certain point and then disappointing. I have never practiced the removal of the episcleral tumor with the knife, cautery, or sharp spoon, as has been so highly recommended by some, nor peritomy of the conjunctiva.

One remedy I have always at first tried in the last ten

years, and that is the inspergation of calomel. With it, especially in recent cases, I have had a number of excellent results. In fact, having had a series of cases which in comparison to other methods had yielded very promptly to this remedy, was what prompted me to bring this subject before you. I had even thought that I was the first to use it and to recognize its value in this affection, when, as is so often the case, I found this was a mistake and that Nettleship, also, recommended it. I raise no question of priority. But, as I said, I was almost convinced that I had found a reliable remedy for the disease and was highly elated, when two cases followed in rapid succession in one of which its action was neutral and in the other decidedly bad. In spite of this I feel that I should advise you to give calomel a fair trial. Most recently adrenaline and all the other derivates of the suprarenal gland have been recommended for this as for a good many other eye diseases. I have tried them, also, and found them wanting. Brilliant adjuncts as these remedies are, I have still to see the first case in which they have a lasting therapeutic effect. To be sure, with them you can blanch the affected area, but their therapeutic effect is nil.

If we are at a loss what to do in the treatment of the superficial episcleritis, this is even more so in cases of the deep seated scleritis. In these the complications must have a decided influence on our therapeutic measures and it would lead us too far, would we here consider all the different possibilities. However, I may say that mercurials have now and then a good effect, as we might expect from our experience with these remedies in cases of disease of the uveal tract.

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MEDICAL SOCIETIES.

PROCEEDINGS OF THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.*

W. LANG, F.R.C.S., President, in the Chair.

Friday, March 13th, 1903.

ANOPHTHALMOS AND MICROPTHALMOS IN A CHICK.

MESSRS. TREACHER COLLINS and J. HERBERT PARSONS described the microscopic appearance of sections through the orbits of a chick in which the right eye appeared to be congenitally absent and the left eye abnormally small. In the right orbit a ring of hyaline cartilage, like that of the sclerotic, was found enclosing partly-pigmented tissue, similar to that of the choroid. There was no lens, retina, pigment epithelium, or optic nerve; there was thus a complete failure in development of all structures derived from neural epiblast. The essential element of an eye was a nervous mechanism which served to receive visual sensations for transmission to the brain. Where this mechanism was completely absent, the condition might be accurately described as one of anophthalmos, notwithstanding the presence of some of the subsidiary structures developed from mesoblast. As far as the writers had been able to ascertain, there was no case of congenital absence of the eye in which it had been satisfactorily shown by microscopical examination that the mesoblastic structures were entirely absent. On the left side the chick had a microphthalmic eye in which the lens had failed to become separated from the cornea. The capsule of the lens was adherent to the substantia propria of the cornea, Descemet's membrane having failed to develop. The adhesion had obstructed the growth of the iris forwards; above, it had turned back and crept around the posterior surface of the lens; below, its growth had become arrested.

THE X-RAYS IN TRACHOMA.

MR. MAYOU read a paper on the treatment of trachoma by the x-rays. The idea first occurred to him when treating

*British Medical Journal.

rodent ulcer and lupus of the eyelid, on finding that no serious damage was done to the globe. The first case cured in this way was shown by him last June; since then several others had been successfully treated. The histological changes in living tissues exposed to the action of the x-rays were then described, the most important change being a superficial irritation capable of being increased and accelerated by the simultaneous application of other irritants, such as copper sulphate. Most of the resulting leucocytosis was found around the trachoma nodules and the cells of rodent ulcer after x-ray treatment of these diseases, the reason for this being that they similarly acted as irritants. It was next pointed out that with care the amount of reaction produced could be regulated and that the varying degrees of reaction might be compared with the first three degrees of burns described by Dupuytren. Cases of prolonged exposure of the globe to the x-rays were then instanced, where the only bad effects produced, and those only temporarily, were falling out of the eyelashes and conjunctivitis; this latter trouble was also found amongst workers in the x-rays, and in them it could be prevented by the use of lead glass spectacles. Mr. Mayou found, with Fuchs and Kreidl (1896), that there was no bleaching of the visual purple by the x-rays; his experiments were carried out on rabbits and frogs. The results of treatment by the x-rays were then compared with those produced by copper sulphate, jequirity, and other irritants, and it was pointed out that there was less destruction of tissue and subsequent cicatrization, as well as less pain, with the former method. The technique of the treatment was then described. The eyelids were everted (the operator's hands being protected by bismuth ointment and cotton gloves); the cornea was only exposed in severe cases where pannus were present. Owing to the infiltration set up difficulty was found in deciding when treatment should cease. Out of nine cases, five remained well, one cleared up but recurred two months later, two others improved and still under treatment, and in one case of corneal opacities following trachoma the vision had improved from P. of L. to fingers at 3 feet. The advantages of this treatment were: (1) There was less resultant deformity of the lid; (2) it was painless; (3) pannus cleared more

thoroughly. The disadvantages were: (1) All patients did not react well to x-rays; (2) it was sometimes difficult to tell when treatment should cease.

Lantern slides of the histological changes produced by the x-rays were shown, and also two patients who had been cured by this treatment.

Remarks were made by the President and by Messrs. Cargill and Stephenson, the latter having seen the best results from the use of high frequency currents.

INJURIES TO THE EYE OF THE CHILD DURING LABOR.

DRS. ERNEST THOMSON and LESLIE BUCHANAN communicated some of the clinical and pathological observations which they had made upon this subject. After indicating the scope of the work done in this connection, Dr. Ernest Thomson gave a summary of the lesions in the 12 cases observed. These comprised expulsion of the eyeball, proptosis, injuries to the cornea, hæmorrhages into various parts of the eye, and retroversion of the lens and vitreous body without rupture of the globe. Dr. Leslie Buchanan described in detail three cases of lesion of the cornea, namely: (1) Rupture of the posterior elastic lamina with involvement of corneal tissue (healing); (2) rupture of the posterior elastic lamina and corneal tissue (unhealed); (3) rupture of the posterior elastic lamina with abrasion. The points of similarity and difference were briefly explained. The identity of those cases of rupture of the posterior elastic lamina and corneal tissue with the cases already described as traumatic keratitis with linear opacity* from a clinical standpoint was pointed out, and the etiology of other corneal opacities seen at birth were discussed. Remark was made upon the very unusual injury, retroversion of the lens and vitreous body, and the nature and origin of the case somewhat fully explained. In conclusion, the subject of traumatic exophthalmos was dealt with, and allusion made to the connection between them and the localized indentation of the cranial bones due to pressure against the sacral promontory. The subject was illustrated by macroscopic and microscopic specimens and diagrams.

*Trans. Ophth. Soc., Vol. XXII.

DISLOCATION OF EYEBALL.

MR. LAWFORD read notes of a case of complete dislocation of the eyeball forwards, occurring in a child, aged 7, as the result of a fall against an iron fender. Reduction was easily effected under chloroform, and recovery ensued, with no defect of sight and no limitations of movements of the eyeball. Slight proptosis was noticeable for one month after the accident, but no restriction of ocular movements could be detected even three days after the reduction of the dislocation.

CARD SPECIMENS.

The following were shown: Dr. Leslie Buchanan: (1) Separation of the Ciliary Body; (2) Congenital Maldevelopment of the Cornea and Sclerotic. Mr. Stephen Mayou: Two Drawings of the Normal Fundi, Illustrated by the Mercury Vapor Lamp. Mr. Arnold Lawson: (1) A Case of Paralysis of the Ocular Fibres of the Cervical Sympathetic with Aortic Disease; (2) a Case of Chronic Irido-Cyclitis (Probably Sympathetic) Following a Rupture of the Globe Twenty-one Years Previously. Drs. W. E. Thomson and Leslie Buchanan: Preparations Illustrating the Effects of Injuries to the Eye of the Child During Labor. Mr. W. H. H. Jessop: Tumor in the Macular Region. Messrs. Sinclair and Parsons: Endothelioma of the Cornea. Mr. Doyne: (1) Melanotic Carcinoma of the Upper Lid with Pigmentation in the Lower Lid; (2) Intraocular Hæmorrhage in a Young Man. Mr. Goldsmith: Hole in the Macula. Mr. N. Bishop Harman: Connective Tissue Veiling the Optic Disc.

PAMPHLETS RECEIVED.

"The Principles Controlling the Non-Operative Interference in Heterophoria," by S. C. Ayres, M.D.

"Metastatic Carcinoma of the Choroid." With report of a case, and review of the literature, by E. L. Oatman, M.D.

"The Use of Gelato-Glycerine Bougies in the Treatment of Acute Earache in Young Children," by G. L. Richards, M.D.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting, March 17th, 1903.

DR. S. D. RISLEY, Chairman, Presiding.

SECTION ON OPHTHALMOLOGY.

Subject for discussion:

THE TREATMENT OF MYOPIA.

DR. GEO. C. HARLAN, in introducing the subject for discussion, gave a short history of the treatment of myopia. He said that formerly there was an almost universal dread among ophthalmic surgeons, of full constant correction of myopia, particularly of the higher grades, but that recently a change of opinion and of practice had become quite general. Quotations from standard European authorities of comparatively recent date showed that undercorrection, especially for near work, was the universal teaching. In America, on the contrary, de Schweinitz, in his text-book, and Duane, in his translation of Fuchs, advocate constant full correction as a rule.

In a discussion of the subject, at the meeting of the American Ophthalmological Society in 1892, a number of the members stated that they approved and practiced this method. More recently it has been gaining in favor in Europe, and at the last meeting of the Heidelberg Society it met with general acceptance, in fact, was opposed by none. The theory that the nearer the eyes can be approximated to the normal condition of emmetropia, the more comfortably and safer they can work, seems to be rapidly gaining ground.

The theory of undercorrection seems to be based principally upon the idea that accommodation rather than excessive convergence is the chief factor in progressive myopia, but it is now being more and more admitted that excessive convergence without accommodation is an important factor. The pressure of the external muscles tends to elongate the ball, and the strain of muscular asthenopia keeps up a constant irritation and congestion. The high myope, while encroaching upon his reserve of convergence, suppresses his accommodation, thus disturbing the close association of these two functions. Graefe, more than 30 years ago, strongly urged

the performance of tenotomy of the external rectus as a curative measure in cases of progressive myopia associated with insufficiency of convergence. Usually the convergence will fall into line when the accommodation is put to work by the proper concave glass; if it does not, prisms or tenotomy are in order.

Of course, the full constant correction of high myopia is advocated only as a general rule to which there may be many exceptions, and each case should be studied and decided on its own merits. The diminution of the retinal image by concave glasses, and the consequent tendency to bring objects closer to secure a wider visual angle, should be borne in mind, and the acuteness of vision and the range of accommodation should receive careful consideration. If full correction does not give fair vision, particularly if there are decided choroidal changes, it is sometimes well to throw off two or three diopeters from the glass for constant use, and to give them to the patient in hook-fronts or lorgnettes, or even in a single glass hung about the neck, to be added occasionally for distant vision; and if the near point is farther than 6 or 8 inches, bifocal glasses will often offer the best solution of the problem.

DR. H. F. HANSELL classified myopia under three heads: (1) Congenital; (2) acquired, and (3) hereditary. In the first, the myopia is only the state of the refraction, and is a symptom, entirely secondary to the congenital disease of the sclera and dependent choroidal atrophy. It is in no sense the disease itself. It is found in childhood, and in individuals who have no education and whose progenitors have not been subjected to the strain of literary pursuits, for example, in the peasants who have emigrated to America. Concave lenses, several diopeters weaker than the full correction, will materially improve vision, and possibly postpone for some years further degenerative processes.

Acquired myopia includes those cases that were born hyperopic, but through educational requirements the refraction changes to emmetropia and finally into myopia. The most influential factor in inducing this increase in refraction is astigmatism. The tendency to ectasia of the sclera is strengthened in the third class by inherited weakness of the

sclera, which, in combination with the other causes, leads to the rapid development of the myopia.

In the optical treatment, the speaker's practice is to modify the strength of the lens in accordance with the degree, with the age, and with the relative strengths of adduction and abduction. For the distance, he prescribes as near a full correction as can be worn with comfort, believing that exophoria, so frequent a complication, is held in abeyance by sharp acuity of vision of each eye rather than by treatment directed to the muscles. For the near, he advocates less than the full correction, always in high degrees at any age, and in moderate degrees in adults and sometimes in children, for the reason that the myopic eye should be considered as a "sick" eye, and hence accommodation should not be forced. In the correction of myopia higher than 8 D. or 10 D., he uses no cycloplegic. In all degrees the exact amount and axis of astigmatism should be learned and corrected.

DR. G. E. DE SCHWEINITZ, after referring to the treatment of young persons whose eyes were passing gradually from hyperopic into myopic refraction, and the great importance that the recognition of such alterations in refraction, after repeated examinations, should have in the prevention of myopia, particularly in the recognition of the smallest degrees of astigmatism, said that in his remarks on the treatment of fully developed myopia he referred only to myopes with reasonably healthy eye-grounds, whose visual acuity could be raised by concave glasses to the normal standard, and did not take into consideration at that time forms of so-called pernicious myopia in which choroidal and other changes in the eye were evident, and in which, as Dr. Hansell had well said, the myopia was a symptom of disease.

DR. DE SCHWEINITZ believed that young persons under 25, with good vision and a moderate degree of myopia (under 6 D.), should wear the full correction constantly if accommodation is ample and no signs of fatigue are evident. Indeed, he was prepared to say that the same rule was applicable to patients until they had reached those years when the accommodation must necessarily receive help, or when examination showed that the amplitude of accommodation was not equal to the necessities of the patient's life. He agreed with Dr.

Jackson that full correction is the object to be attained for young persons with normal visual acuity and binocular near vision, no matter how high their myopia, provided the lens selected should not be an overcorrection when brought close to the eye. He fully understood and agreed that there were many exceptions to these rules, and, as Dr. Harlan has said, each case should be studied and decided on its own merits, but, other things being equal, he considered it a positive misfortune that when young people first came for the correction of their myopia they should be given the so-called undercorrections, because once undercorrection having been given, it was difficult to alter it to a full correction. He believed with Priestley Smith that every youthful myopia should be suspected of a tendency to increase, and therefore should be re-examined at regular intervals, which intervals should not exceed in length twelve months, and that at each such examination full and prolonged mydriasis should be employed. He was satisfied that this method of treatment tended to check myopia, and although he had in the earlier portion of his career, according to teaching then rather prevalent, given undercorrections, he had not done so, other things being equal, for the last ten or fifteen years, and had been satisfied that his results justified the course pursued. Dr. de Schweinitz was very sure that the fitting of glasses was not the only therapeutic measure suited to the treatment of myopia, but that the tendency to congestion of the choroid coat should be combated by the administration of the various alteratives from time to time, and that active mydriasis with some drug, than which there was no better than atropin, for prolonged periods at a time when the recorrections before mentioned were made, had a distinct therapeutic value. He was satisfied that those who had expressed much dissatisfaction with what are known as full corrections often failed because they had not employed a sufficiently active mydriatic. Dr. de Schweinitz enumerated the cases of myopia which did not permit a full correction, independently of those exhibiting pathologic alterations in the fundus, and referred especially to the fact that he based his practice of giving full corrections in myopia entirely on the results obtained by the examination of the visual acuity, the range of accommoda-

tion, the character of the myopia and the condition of the external ocular muscles. He was most particular to measure and correct the smallest degrees of astigmatism, and was satisfied that among his most grateful patients he numbered those to whom he had given full correcting glasses for the neutralization of their myopia and myopic astigmatism, or whom he had taught to use full correcting glasses when they had previously struggled against the constant disadvantage of an undercorrection when viewing distant objects.

DR. GEORGE M. GOULD said: As we all know, every case is an individual study, and hardly any rule can be formulated as to the treatment of myopia which has not as many exceptions as instances in proof. The fact which renders almost all previous opinions, statistics, and data valueless is the omission of an accurate correction of the astigmatism. Our foreign colleagues have not cared to do this and have not chosen the proper means to do it. Without mydriasis and subjective testing the astigmatism in myopia cannot be found, and this vitiates all conclusions. The same may be said of anisometropia, equally neglected, and equally powerful to affect results. Then, I have never been able to determine what is meant by "full correction." It is easy to bring patients with myopia to normal acuteness of vision and still the ametropia may be incorrectly diagnosed, may be undercorrected or overcorrected. It all depends upon the individual oculist, his methods, keenness of observation, conscientiousness, etc. As for myself, I never fully correct myopia, for constant use, and I believe such advice is wrong. My case records show that a large portion of my myopic patients have passed through the care of other oculists and are relieved of their reflex and local troubles by a modified glass or by undercorrection. One case may illustrate the evils of full or rather approximately full correction. A patient was given nearly full correction of a moderately high myopia, to be used only in riding or at the theater, etc. Every time he wears these glasses he at once gets a violent cold, with hoarseness and coryza. In an hour after taking the glasses off and returns to his lower correction, given for house and business purposes, his "cold" disappears. This has happened hundreds of times. If these latter glasses become

bent or maladjusted, he also gets his "cold," and goes to the optician to be cured at once.

DR. T. H. FENTON believed in describing the full correcting lens for distance, but it was his custom to order a weaker glass for near work. The amount of reduction in the strength of the reading glass varied with the degree of defect, the age of the patient and the power of adduction. In high degrees of error he frequently gave one-half the full correcting lens for near use.

DR. S. D. RISLEY, in closing the discussion, said that on careful analysis and in actual practice it could probably be shown that there was less actual divergence of opinions than appeared in any cursory view of the remarks made by the various speakers, but, nevertheless, practice in the treatment of myopia would be affected by the views entertained regarding the etiology and essential nature of the condition. Personally, he considered the subject one of the most serious confronting the ophthalmic surgeon. The classification made by Dr. Hansell was the conventional one, but in his own experience congenital myopia had been extremely rare, and, so far as he could recall, had occurred only among imbecile children who had other marked anatomical anomalies in the form of the skull. Indeed, he had seen very few cases of myopia before 6 or 7 years of age.

Regarding heredity, he was not willing to accept it as a potent factor in the etiology of the affection, except in so far as certain hereditary anatomical peculiarities in the form of the skull, which led to abnormalities in the size and shape of the bony orbit, might be regarded as an hereditary tendency. From an analysis of a large number of myopic patients treated in private practice, he found that myopic children quite as frequently had parents with hypermetropic astigmatism, and that the children of myopic parents were far more frequently hypermetropic than myopic. The only hereditary bias, beyond question, was the unvarying fact of the heredity of the hypermetropic eye with astigmatism and the absolute abnormalities of binocular balance.

This was due to the distortions of the family skull and the resulting abnormal shape of the orbit, which affected the form of the eyeball, giving rise to astigmatism, anisometropia, and

abnormalities in the origin, line of direction, and attachment of the muscles to the globe. The eye-strain caused by the effort to secure accurate binocular vision in the presence of these defective conditions set up congestive, irritative, and inflammatory states of the intraocular membranes which were, he believed, the important etiologic factors in the myopic eye. The intraocular congestion probably gave rise to a degree of tension of the globe which the readily yielding tissues—*i. e.*, the sclera—of childhood were not prepared to resist, and hence the distention or stretching of the globe.

Regarding the full optical corrections of myopia, the idea was by no means a new one, since he had, from his earliest experience, given full correcting glasses for distance, believing that the scientific procedure was to first determine the static refraction of the eye, and then reduce the optical conditions to emmetropia, since he believed the emmetropic to be the model eye. He was confirmed in this view by the laboratory studies of Donders, whose book was his first text-book. It would be recalled by those familiar with the subject that Donders had shown that myopes who had worn correcting glasses for a long time manifested, as shown by his charts, a relative range and region of accommodation and convergence which closely approximated that of emmetropia, the chart differing very widely from that of the uncorrected myope.

This to him afforded a strong argument in favor of full corrections, but, as Dr. Gould had very correctly claimed, it was impossible to establish a rule which would be applicable to all cases. There were many eyes too tender to bear the strain of accommodation and convergence at the near-point.

It was always to be borne in mind, as Dr. Hansell had so well said, following Donders in this, that the myopic eye is a sick eye. It would be found that the conclusions regarding full corrections, based upon the experience of any individual surgeon, bear very close relation to his methods and the care with which he sought to correct any existing astigmatism or muscular unbalance. Undercorrections were unquestionably safer for the patient with bad eyes, where manifest corrections were made or in the absence of a careful analysis of all existing conditions. Personally he believed that in eyes with progressive myopia, no trustworthy measure of the static re-

fraction of the eye could be made until under prolonged treatment with a strong and enduring mydriatic and complete rest the pathologic conditions of the fundus oculi had subsided. He had many times seen, under the most careful daily study, the myopia diminish day by day, changes taking place in both the degree of astigmatism and the direction of the corneal meridians, as the eye settled back toward a state of rest and health. Any glass, therefore, selected by subjective or even objective methods of examination, and ordered at the first trial, would not have represented the true static error, and would not have been worn either safely or comfortably. He contended, therefore, that the mydriatic in these sick eyes should be used not only as a cycloplegic but as a therapeutic measure; and that only by this means could the actual static refraction of the eyes be determined; that unless so determined in cases of progressive myopia undercorrecting glasses were safer.

Another point which could not be safely overlooked was that we could not expect these tender eyeballs, with blood vessels once distended and a sclerotic that had once given way under the strain of work, to resume continuous near work safely, except under the most favorable conditions. It was at this point, and at this only, he must differ with the views expressed by Dr. de Schweinitz. Except in the lower degrees he thought that work at the near-point in progressive myopia was done more safely with a glass giving an artificial far-point, just beyond the working distance, thus removing all strain on the accommodation and at the same time relieve the strain upon the convergence by prisms base in or a careful decentering of the glasses. This could often be done by a pair of bifocal glasses centered for infinity.

In concluding, he said that it was better to give such a reading glass for constant wear, with which no effort for distinct vision would be made, than to give approximate corrections, since a blurred image was always distressing because of the unconscious effort of the accommodation to focus it. He illustrated this point by calling attention to the restfulness of the fine adjustment of the microscope, and by the distressing experience of spending an evening in looking at badly focussed pictures thrown on a screen which were sure to send the observer home with tired eyes and a headache.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.
ST. LOUIS, MO.

THE PRESCRIBING OF GLASSES.

Alexander Duane gives the following rules for the prescribing of glasses:

1. Correct all the astigmatism the patient has, unless it is over 6 D., in which case he is sometimes more comfortable and gets quite as good vision with the astigmatism slightly under-corrected. Do not hesitate to prescribe cylinders of more than 6 D. when they give appreciably better sight than glasses of less strength. Astigmatism of only 0.25 or 0.50 D. do not prescribe for, unless the symptoms (asthenopia, blurring of sight, etc.), particularly call for the correction, or unless the patient has to use his eyes for very close and continuous near work, or finally unless the patient is going to use glasses anyhow (*e. g.*, for presbyopia), in which case add the cylindrical correction however small.

2. Correct the full amount of myopia, and whenever possible have the patient use the same correction for distance and near. Of course this cannot be done if he is much beyond the age of forty years, and even below that age we may have to give the myope different glasses for reading and distance, particularly if he has not used concave lenses before for near work; but in myopes under forty years of age Duane finds he usually succeeds in getting his patients to use full correcting lenses for all purposes, if they are at all faithful in following his instructions. In children it is particularly important to give the full correction whether of high or low degree, and to insist on constant use, as this course tends more than anything else to retard the further development of the myopia. It is also of great importance to correct fully the myopia and to insist on the patient wearing the lenses for all purposes when he has a convergence insufficiency, the fully correcting lenses for near and far stimulating the accommodative power and preventing the development of a divergent

squint. Myopia of very high degree in some instances may have to be under-corrected on account of the annoyance of light dispersion in very strong concave lenses, but we may generally prescribe concave lenses up to 18 D., and in a few cases with advantage even stronger ones.

3. Correct all the absolute and all the manifest hyperopia. The latent hyperopia may be under-corrected, according to:

a. The age of the patient. The older he is the less in general can be left uncorrected. No absolute rule can be laid down, but it may be stated that in children under twelve years of age from 1 to 2 D. of latent hyperopia may often be disregarded, and from twelve to twenty-five years of age 0.75 to 1.25 D., while twenty-five to forty years should have only 0.50 to 0.75 D. disregarded.

b. The conditions under which he works. If he has to use his eyes excessively, especially at some trying kind of work, and particularly if by artificial light, a stronger glass is required than if he were using his eyes mainly for distance and by daylight.

c. His symptoms. A patient with asthenopia, headache, and other evidences of eyestrain will require fuller correction of his latent hyperopia than one who has no such symptoms. So also one suffering from accommodative weakness, due either to neurasthenia or to the effects of a recent illness, will require the correction of nearly or quite all of his hyperopia, even if of low degree.

d. The muscular conditions. A patient with esophoria, and still more one with an actual convergent squint, due to convergence excess, should wear constantly the full correction of his hyperopia, or within 0.25 D. of it. Per contra. a patient with marked exophoria, and particularly an exophoria due to convergence-insufficiency, often does better if his hyperopia is moderately under-corrected.

4. In anisometropia, whenever the vision can be brought up to any thing like the normal, try either to give the full correction in both eyes, or else reduce the full correction by an equal amount in both eyes, telling the patient to wear the glasses steadily and to persevere even if he has trouble in wearing them the first week or possibly the first two weeks. The indications for thus correcting anisometropia is particu-

larly important when there is a tendency to deviation of the eyes,—either squint or insufficiency.

THE THERAPEUTIC VALUE OF LARGE DOSES OF THE
SALICYLATES IN UVEITIS.

H. McJ. Morton (*Ophthalmic Record*, January), for the last eleven years has used large doses of the salicylates in all cases of uveitis with very satisfactory results. He finds that 30 to 60 gr. doses produce decided results where 10 to 20 gr. doses accomplish but very little. In severe cases he gives 40 grs. every two or three hours until relief is obtained. He advises giving it in cold water, on an empty stomach.

A CASE OF IDIOSYNCRASY TO HOMATROPINE AND ATROPINE.

William L. Phillips (*Ophthalmic Record*, January), reports a case where homatropine and atropine produced myosis instead of the usual effects.

THE TREATMENT OF AN INFECTED CORNEAL WOUND WITH
ACETOZONE.

J. F. Klinedinst (*Journal of Eye, Ear, and Throat Diseases*, November-December, 1902), thinks that we have in this agent a germicide which is safe and more powerful than any other. The author thinks one grain to two fluid ounces of water, quite strong enough for prompt and satisfactory results, but says it can be used much stronger. The stronger solutions produce considerable temporary pain.

RETINAL HÆMORRHAGES--AN AID TO THE EARLY
RECOGNITION OF GENERAL ARTERIAL DEGENERATION.

Henry C. Haden (*Phila. Medical Journal*, Feb. 21,), refers to the importance of detecting degeneration of the arteries in the early stages, reports two cases of retinal hæmorrhage without inflammatory symptoms, and draws the following conclusions:

1. Retinal hæmorrhages, associated with high arterial tension and accompanied by transitory albuminuria, are significant of beginning widespread arterial degeneration.
2. That in those cases of so-called physiological or transitory albuminuria, occurring in active, healthy young business

men or students, in those who are working under forced pressure, an ophthalmoscopic examination should be made.

3. When retinal hæmorrhages occur without albuminuria, the patient should be kept under observation, the urine to be examined from time to time and the quantity passed noted.

4. In case we find these conditions, it is our duty to warn the patient of his condition and, as Osler says, "so gain his intelligent co-operation," and preserve his life and usefulness.

BOTTLE FINISHER'S CATARACT.

William Robinson (*British Medical Journal*, Jan. 24, 1902,), refers to the frequency of cataract in bottle finishers, who are exposed to the bright light and intense heat of a furnace, during their working hours. Six cases are reported. The disease begins early in life, usually as a posterior polar cortical cataract, and progresses slowly. It can be prevented by wearing dark blue spectacles.

THE ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.
—At its recent meeting held at Indianapolis, April 9th to 11th, the Western Ophthalmologic and Oto-Laryngologic Association adopted a new and broader constitution and changed its somewhat unwieldy name to that of the "Academy of Ophthalmology and Oto-Laryngology." The meeting was a very successful and instructive one, and the entertainments prepared by the local profession were highly enjoyable. The Academy elected the following officers: President, Dr. Edward Jackson, Denver, Col.; 1st vice-president, Dr. D. S. Reynolds, Louisville, Ky.; 2d vice-president, J. J. Kyle, Indianapolis, Ind.; 3d vice-president, Dr. J. W. Murphy, Cincinnati, O.; secretary, Dr. D. T. Vail, Cincinnati, O.; treasurer, Dr. J. O. Stein, Chicago, Ill.; Council, Dr. Adolf Alt, St. Louis, Mo.; Dr. W. Ballenger, Chicago, Ill.; Dr. Casey A. Wood, Chicago, Ill.; C. R. Holmes, Cincinnati, O.

BOOK REVIEWS.

DISEASES OF THE SKIN.—THEIR DESCRIPTION, PATHOLOGY, DIAGNOSIS AND TREATMENT, ETC. By H. RADCLIFFE CROCKER, M. D. Third edition revised and enlarged. With 4 plates and 112 illustrations. Philadelphia: P. Blakiston's Son & Co. 1903. Price \$5.00.

This is one of the best and most complete of textbooks on skin diseases in the English language. As can be expected, it is thoroughly up to date, and pays attention to all recent researches and remedies. The illustrations are good. We might wish there were more of them. The exhaustive chapters on hyphomycetic and animal parasites of the skin are especially interesting. ALT.

PAMPHLETS RECEIVED.

"The Retinitis Albuminurica of Pregnancy," by S. C. Ayres, M.D.

"A Convenient Case for Butterflies and Moths," by J. R. Slonaker.

"A Case of Congenital Fistula of the Internal Nose," by N. H. Pierce, M.D.

"The Nature and Histo-Pathology of the Epipharyngeal Tonsil," by N. H. Pierce, M.D.

"Is the Adenoid Operation a Justifiable Surgical Procedure?" by G. L. Richards, M.D.

"The Treatment of Paralytic Strabismus; a New Operative Procedure," by J. H. Howard, M.D.

"On the Orbito-Ocular Complications of Suppurative Ethmoidal Sinusitis," by Calderaro, M.D.

"The Treatment of Peritonsillar Abscess with Exhibition of New Instruments," by N. H. Pierce, M.D.

"Treatment of Certain Purulent Conditions of the Antrum of Highmore Through the Natural Openings," by N. H. Pierce, M.D.